

## **ABSTRACT**

Methods that include acquiring aerial images of a reticle for different values of a member of a set of lithographic variables are provided. One method also includes determining a presence of an anomaly in a design pattern of the reticle by comparing at least one pair of the aerial images corresponding to at least two of the different values. A different method includes comparing at least one pair of the aerial images corresponding to at least two of the different values and determining an area on the reticle where a lithography process using the reticle is most susceptible to failure based on the results of the comparison. Another embodiment includes determining a presence of transient repeating defects on the reticle by subtracting non-transient defects from the aerial images and comparing at least one pair of the aerial images corresponding to at least two of the different values.